

Attorney Docket No. :Bayer 10,203 KGB  
 Applicant :HAGEN et al  
 Filing Date :11/29/99  
 FORM PTO-1449

Serial No. :09/424,686  
 Group No. :TBA



**INFORMATION DISCLOSURE STATEMENT BY APPLICANT**  
**U.S. PATENT DOCUMENTS**

Ex. Initial	Document No.	Date	Name	Class	Subclass	Filing Date If Appropriate
dw	AA 5,583,016	12/10/96	Villeponteau et al. (English Equivalent of WO 96 01835 A)			
dw	AB 5,747,317	05/05/98	Cao (English Equivalent of WO 98 01543 A)			

**FOREIGN PATENT DOCUMENTS**

Ex. Initial	Document No.	Date	Name	Class	Subclass	Filing Date If Appropriate
dw	AC WO 96 01835 A (Andrews William H; Villeponteau Bryant (US); Funk Walter (US); FEN)	25 Januar 1996	siehe Seite 9, Zeile 31 - Seite 10, Zeile 34; siehe Seite 55, Zeile 22 - Seite 59, Zeile 3; siehe Anspruche			
dw	AD WO 96 19580 A (Cold Spring Harbor Lab; Greider Carol (US); Collins Kathleen (US);)	27. Juni 1996	siehe Beispiele 8-10			
dw	AE WO 96 40868 A (Cold Spring Harbor Lab; Greider Carol (US); Autexier Chantal (US))	19. Dezember 1996	siehe Seite 8, Zeile 15 - Seite 9, Zeile 27 siehe Beispiel 1			
dw	AF WO 98 14593 A (Andrews William H; CECH THOMAS R (US); Morin Gregg B (US); Nakamura)	9. April 1998	siehe SEQ Ids 1,2,117,119,140 und 613 siehe Seite 27, Zeile 30-Seite 52, Zeile 14 siehe Seite 72, Zeile 14-Seite 79, Zeile 8; siehe Seite 91, Zeile 5-Seite 105, Zeile 7; siehe Seite 114, Zeile 1-Seite 158, Zeile 16 siehe Beispiele			
dw	AG WO 98 21343 A (Amgen Canada Inc.; Amgen Inc. (US))	22. Mai 1998	siehe Abbildung 9 siehe Seite 68, Zeile 32 - Seite 95, Zeile 5 siehe Anspruche			
dw	AH WO 98 01543 A (Tularik Inc)	15. Januar 1998	siehe das ganze Dokument			
dw	AI WO 98 37181 A (Counter Christopher M; Weinberg Robert A (US); Whitehead Biomedica)	27 August 1998	siehe Seite 37, Zeile 22-Seite 58, Zeile 16 siehe Abbildung 2			

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

dw	AJ Greider C W: "Telomere Length Regulation" Annual Review of Biochemistry, Bd. 65, 1996, Seiten 337-365, XP002056801
dw	AK Nakamura T M et al: "Telomerase Catalytic Subunit Homologs From Fission Yeast and Human": SCIENCE, Bd. 277, 15. August 1997, Seiten 955-959, XP002056803 siehe das ganze Dokument
dw	AL Myerson M et al: "HEST2, THE PUNATIVE HUMAN TELOMERASE CATALYTIC SUBUNIT GENE, IS UP-REGULATED IN TUMOR CELLS AND DURING IMMORTALIZATION" CELL, Bd.90, Nr. 4, 22. August 1997, Seiten 785-795, XP002056804 siehe das ganze Dokument
dw	AM Kilian, A. et al.: "Isolation of a candidate human ..." HUMAN MOLECULAR GENETICS., Bd. 6,12. November 1997, Seiten 2011-2019, XP002086926 OXFORD GB siehe das ganze Dokument

Examiner: Malick

Date Considered: 08/06/01

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Ex.  
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AA

Adams, M.D., Dubnick, M., Kerlavage, A.R., Moreno, R., Kelley, J.M., Utterback, T.R., Nagle, J.W., Fields, C. und Venter, J.C. (1992). Sequence identification of 2,375 human brain genes. Nature 355: 632-634.

AB

Allsopp, R. C., Vazire, H., Patterson, C., Goldstein, S., Younglai, E.V., Fitcher, A.B., Greider, C.W. und Harley, C.B. (1992). Telomere length predicts replicative capacity of human fibroblasts. Proc. Natl. Acad. Sci. 89, 10114-10118.

AC

Altschul, S. F., Gish, W., Miller, W., Myers, E. W. et al. (1990). Basic local alignment search tool. J. Mol. Biol. 215, 403-410.

AD

Blasco, M. A., Rizen, M., Greider, C. W. und Hanahan, D. (1996). Differential regulation of telomerase activity and telomerase RNA during multistage tumorigenesis. Nature Genetics 12, 200-204.

AE

Broccoli, D., Young, J. W. und deLange, T. (1995). Telomerase activity in normal and malignant hematopoietic cells. Proc. Natl. Acad. Sci. 92, 9082-9086.

AF

Collins, K., Kobayashi, R. und Greider, C. W. (1995). Purification of Tetrahymena telomerase and cloning of genes encoding the two protein components of the enzyme. Cell 81, 677-686.

AG

Counter, C. M., Avillon, A. A., LeFeuvre, C. E., Stewart, N. G. Greider, C.W. Harley, C. B. und Bacchetti S. (1992). Telomere shortening associated with chromosome instability is arrested in immortal cells which express telomerase activity. EMBO J. 11, 1921-1929.

AH

Counter, C. M., Gupta, J., Harley, C. B., Leber, B. und Baccetti, S. (1995). Telomerase activity in normal leukocytes and in hematologic malignancies. Blood 85, 2315-2320.

AI

Feng, J., Funk, W. D., Wang, S.-S., Weinrich, S. L., Avillon, A.A., Chiu, C.-P., Adams, R.R., Chang, E., Allsopp, R.C., Yu, J., Le, S., West, M.D., Harley, C.B., Andrews, W.H., Greider, C.W. und Villeponteau, B. (1995). The RNA component of human telomerase. Science 269, 1236-1241.

AJ

Gerhold, D. und Caskey, T. (1996). It's the genes! EST access to human genome content. BioEssays 18, 973-981.

AK

Goldstein, S. (1990). Replicative senescence: The human fibroblast comes of age. Science 249, 1129-1133.

AL

Greider, C. W. und Blackburn, E. H. (1985). Identification of a specific telomere terminal transferase activity in Tetrahymena extracts. Cell 43, 405-413.

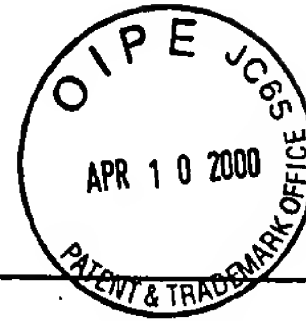
Examiner: M. A. L. L. L.Date Considered: 8/06/01

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| AA | Greider, C. W. und Blackburn, E. H. (1987). The telomere terminal transferase of Tetrahymena is a ribonucleoprotein enzyme with two kinds of primer specificity. Cell 51, 887-898.                                                                             |
| AB | Greider, C. W. und Blackburn, E. H. (1989). A telomeric sequence in the RNA of Tetrahymena telomerase required for telomere repeat synthesis. Nature 337, 331-337.                                                                                             |
| AC | Harley, C. B., Futcher, A. B. und Greider, C. W. (1990). Telomeres shorten during ageing of human fibroblasts. Nature 345, 458-460.                                                                                                                            |
| AD | Harrington, L., McPhail, T., Mar, V., Zhou, W., Oulton, R., Amgen- EST Program, Bass, M.B., Arruda, I. und Robinson, M.O. (1997). A mammalian telomerase-associated protein. Science 275: 973-977.                                                             |
| AE | Hastie, N. D., Dempster, M., Dunlop, M. G., Thompson, A. M., Green, D.K. und Allshire, R.C. (1990). Telomere reduction in human colorectal carcinoma and with ageing. Nature 346, 866-868.                                                                     |
| AF | Hiyama, K., Hirai, Y., Kyoizumi, S., Akiyama, M., Hiyama, E., Piatyszek, M.A., Shay, J.W., Ishioka, S. und Yamakido, M. (1995). Activation of telomerase in human lymphocytes and hematopoietic progenitor cells. J. Immunol. 155, 3711-3715.                  |
| AG | Kim, N.W., Piatyszek, M.A., Prowse, K.R., Harley, C. B., West, M.D., Ho, P.L.C., Coviello, G.M., Wright, W.E., Weinrich, S.L. und Shay, J.W. (1994). Specific association of human telomerase activity with immortal cells and cancer. Science 266, 2011-2015. |
| AH | Lingner, J., Hughes, T.R., Shevchenko, A., Mann, M., Lundblad, V. und Cech T.R. (1997). Reverse transcriptase motifs in the catalytic subunit of telomerase. Science 276: 561-567.                                                                             |
| AI | Lundblad, V. und Szostak, J. W. (1989). A mutant with a defect in telomere elongation leads to senescence in yeast. Cell 57, 633-643.                                                                                                                          |
| AJ | McClintock, B. (1941). The stability of broken ends of chromosomes in Zea mays. Genetics 26, 234-282.                                                                                                                                                          |
| AK | Meyne, J., Ratliff, R. L. und Moyzis, R. K. (1989). Conservation of the human telomere sequence (TTAGGG) <sub>n</sub> among vertebrates. Proc. Natl. Acad. Sci. 86, 7049-7053.                                                                                 |
| AL | Okubo, K., Hori, N., Matoba, R., Niiyama, T., Fukushima, A., Kojima, Y. and Matsubara, K. (1992). Large scale cDNA sequencing for analysis of quantitative and qualitative aspects of gene expression. Nature Genetics 2: 173-179.                             |

Examiner: M. Salick

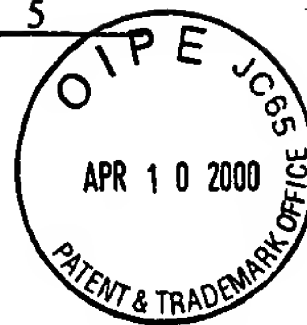
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Ex.  
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AA Olovnikov, A. M. (1973). A theory of marginotomy. J. Theor. Biol. 41, 181-190.

AB Poch, O., Sauvaget, I., Delarue, M. und Tordo, N. (1989). Identification of four conserved motifs among the RNA-dependent polymerase encoding elements. EMBO J. 8: 3867-3874.

AC Prowse, K. R., Avilion, A. A. und Greider, C. W. (1993). Identification of a nonprocessive telomerase activity from mouse cells. Proc. Natl. Acad. Sci. 90, 1493-1497.

AD Sandell, L. L. und Zakian, V. A. (1993). Loss of a yeast telomere: Arrest, recovery and chromosome loss. Cell 75, 729-739.

AE Shampay, J. und Blackburn, E. H. (1988). Generation of telomere-length heterogeneity in *Saccharomyces cerevisiae*. Proc. Natl. Acad. Sci. 85, 534-538.

AF Shay, J. W. (1997). Telomerase and Cancer. Ciba Foundation Meeting: Telomeres and Telomerase. London.

AG Singer, M. S. und Gottschling, D. E. (1994). TLC1: Template RNA Component of *Saccharomyces cerevisiae* Telomerase. Science 266, 404-409.

AH Vaziri, H., Dragowska, W., Allsopp, R. C., Thomas, T. E., Harley, C.B. und Landsdorp, P.M. (1994). Evidence for a mitotic clock in human hematopoietic stem cells: Loss of telomeric DNA with age. Proc. Natl. Acad. Sci. 91, 9857-9860.

AI Xiong, Y. und Eickbush, T.H. (1990). Origin and evolution of retroelements based upon their reverse transcriptase sequences. EMBO J. 9: 3353-3362.

AJ Yu, G.-L., Bradley, J. D., Attardi, L. D. und Blackburn, E. H. (1990). *In vivo* alteration of telomere sequences and senescence caused by mutated *Tetrahymena* telomerase RNAs. Nature 344, 126-132.

AK Zakian, V. A. (1995). Telomeres: Beginning to understand the end. Science 270, 1601-1607.

AL Altschul, S. F., Gish, W., Miller, W., Myers, E. W. et al. (1990). Basic local alignment search tool. J. Mol. Biol. 215, 403-410. (see point 3)

Examiner: M. Salcido

Date Considered: 08/08/01

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AA Gerhold, D. und Caskey, T. (1996). It's the genes! EST access to human genome content. BioEssays 18, 973-981. (see point 10)

AB Lingner, J., Hughes, T.R., Shevchenko, A., Mann, M., Lundblad, V. und Cech T.R. (1997). Reverse transcriptase motifs in the catalytic subunit of telomerase. Science 276: 561-567. (see point 20)

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